WHAT IS CLAIMED IS:

1. A moving object having at least two energy output sources including a fuel cell, said moving object comprising:

a detector that measures at least either one of an output sustaining ability and a variation thereof with regard to at least one of said at least two energy output sources; and

an output controller that controls an output state of energy from each of said at least two energy output sources, based on a result of the measurement by said detector, so as to ensure output of a required total energy.

2. A moving object in accordance with claim 1, said moving object being constructed as a vehicle having said at least two energy output sources including said fuel cell.

3. A moving object in accordance with claim 1, wherein said detector measures at least either one of the output sustaining ability of said fuel cell and the variation thereof, based on a remaining quantity of a fuel for said fuel cell.

4. A moving object in accordance with claim 1, wherein said detector measures at least either one of the output sustaining ability of said fuel cell and the variation thereof, based on a loading state of said fuel cell.

5. A moving object in accordance with claim 1, wherein said at least two energy output sources include said fuel cell and a heat engine.

6. A moving object in accordance with claim 5, wherein said detector measures at least either one of the output sustaining ability of said heat

engine and the variation thereof,

an overall driving range of the moving object includes a first driving range where the heat engine is used as a working energy output source and a second driving range where the heat engine is not used as the working energy output source,and

said output controller selects said fuel cell to be used in place of said heat engine as the working energy output source even in the first driving range when the observed output sustaining ability of said heat engine is lower than a predetermined level.

7. A moving object in accordance with claim 1, said moving object further comprising:

a drive shaft that outputs mechanical power to move said moving object; and

a mechanical energy output mechanism that converts energy output from each of said at least two energy output sources into mechanical energy and outputs the converted mechanical energy to said drive shaft,

wherein the required total energy is expressed as a quantity of mechanical energy output from said drive shaft per unit time.

8. A moving object in accordance with claim 7, wherein said moving object has a specific driving range where a predetermined energy output source is selected out of said at least two energy output sources to be mainly used to output the required total energy, and

said output controller narrows the specific driving range as the output sustaining ability of said selected energy output source decreases.

9. A moving object in accordance with claim 7, wherein said output controller reduces a torque, which is to be output by utilizing a

predetermined energy output source selected out of said at least two energy output sources, with a decrease in the output sustaining ability of said selected energy output source.

10. A moving object in accordance with claim 7, wherein said at least two energy output sources include a heat engine, said fuel cell, and a secondary battery,

said mechanical energy output mechanism includes at least a motor that is rotatable with electric power output from said fuel cell and said secondary battery,

a droiving range of said moving object includes a specific driving range only in which said motor is to operate, and

said output controller varies at least either one of said specific driving range of said motor and an output torque of said motor, based on the output sustaining ability of said fuel cell.

11. A moving object in accordance with claim 1, said moving object further comprising:

an accumulator that is charged with electric power and is discharged to release electric power; and

an electrical energy output mechanism that converts energy output from each of said at least two energy output sources into electrical energy, which is supplied to charge said accumulator,

wherein the required total energy is expressed as a quantity of electrical energy required to increase a charge level of said accumulator to a predetermined degree.

12. A moving object in accordance with claim 11, wherein said output controller lowers the predetermined degree, which is set as a target

charge level of said accumulator, with a decrease in output sustaining ability of a specific energy output source that mainly outputs electric power to charge said accumulator.

13. A moving object in accordance with claim 11, wherein said output controller reduces a ratio of an output of a specific energy output source, which mainly outputs electric power to charge said accumulator, to the total energy with a decrease in output sustaining ability of said specific energy output source.

14. A moving object in accordance with claim 13, wherein said output controller heightens the predetermined degree, which is set as a target charge level of said accumulator, with a decrease in output sustaining ability of a specific energy output source that mainly outputs electric power to charge said accumulator.

15. A moving object in accordance with claim 1, wherein said detector measures the variation in the output sustaining ability with regard to at least one of said at least two energy output sources, and

said output controller varies an output of said at least one energy output source, which is observed by the detector to measure the variation in the output sustaining ability, at a rate corresponding to the observed variation.

16. A moving object in accordance with claim 1, wherein said output controller changes a working energy output source according to a driving state of said moving object, so as to output the total energy,

said output controller forbidding a change of the working energy output source to a specific energy output source that is determined to have

an output sustaining ability of not greater than a preset level.

17. A moving object in accordance with claim 1, wherein said output controller changes a working energy output source according to a driving state of said moving object, so as to output the total energy,

said output controller performing a change of the working energy output source from a specific energy output source, which is determined to have an output sustaining ability of not greater than a preset level, to another energy output source even if the driving state of said moving object recommends a selection of said specific energy output source as the working energy output source.

18. A moving object in accordance with claim 17, wherein each of said at least two energy output sources has a mechanism that outputs rotational power to a drive shaft of said moving object, and

said output controller performs the change of the working energy output source from said specific energy output source to said another energy output source in a specific driving state of said moving object, where a difference between torques said specific energy output sources can ouput is within a preset range.

19. A moving object in accordance with claim 1, said moving object further comprising:

a driving state input unit that inputs a predetermined parameter representing a driving state of said moving object,

wherein said output controller varies a reference value, which is used to control the output state of energy from each of said at least two energy output sources based on the result of the measurement, with a variation of the predetermined parameter.

20. A driving apparatus comprising at least two energy output sources including a fuel cell, said driving apparatus comprising:

an estimation unit that estimates at least either one of a remaining power and a variation thereof with regard to at least one of said at least two energy output sources; and

an output distribution controller that regulates a distribution of total energy to be output from said at least two energy output sources among said at least two energy output sources, based on a result of the estimation by said estimation unit.

21. A driving apparatus in accordance with claim 20, wherein said estimation unit estimates at least either one of the remaining power and the variation thereof with regard to said fuel cell, based on either one of a remaining quantity of a fuel for said fuel cell and a remaining quantity of a raw material used to produce the fuel for said fuel cell.

22. A driving apparatus in accordance with claim 20, wherein said output distribution controller regulates the distribution while allowing at least one energy output source other than said fuel cell to have a negative output energy.

23. A driving apparatus in accordance with claim 20, wherein said output distribution controller changes a working energy output source according to a driving state of said driving apparatus, so as to output the total energy,

said output distribution controller forbidding a change of the working energy output source to a specific energy output source that is determined to have a remaining power of not greater than a preset level.

24. A driving apparatus in accordance with claim 20, wherein said output distribution controller changes a working energy output source according to a driving state of said driving apparatus, so as to output the total energy,

said output distribution controller performing a change of the working energy output source from a specific energy output source, which is determined to have a remaining power of not greater than a preset level, to another energy output source even if the driving state of said moving object recommends a selection of said specific energy output source as the working energy output source.

25. A driving apparatus in accordance with claim 24, wherein said output distribution controller performs a change of the working energy output source from said specific energy output source to said another energy output source in a specific driving state of said driving apparatus, where a total torque output from both said specific energy output source and said another energy output source to said drive shaft of said driving apparatus is within a preset range.

26. A driving apparatus in accordance with claim 20, said driving apparatus further comprising:

a driving state input unit that inputs a predetermined parameter representing a driving state of said driving apparatus,

wherein said output distribution controller varies a reference value, which is used to regulate the distribution of the total energy to be output from said at least two energy output sources among said at least two energy output sources based on the result of the estimation by said estimation unit, with a variation of the predetermined parameter.

27. A method of controlling a drive of a moving object that comprises at least two energy output sources including a fuel cell, said method comprising the steps of:

(a) measuring at least either one of an output sustaining ability and a variation thereof with regard to at least one of said at least two energy output sources;

(b) setting a total energy to be output from said at least two energy output sources; and

(c) regulating energy to be output from each of said at least two energy output sources based on a result of the measurement in said step (a) and controlling said each energy output source, so as to output the total energy set in said step (b).

28. A moving object having a motor and a heat engine as power sources, said moving object comprising:

a fuel cell and a secondary battery as electric power supplies of said motor;

a regulation unit that regulates supplies of electric power fed from said fuel cell and said secondary battery to said motor; and

a control unit that controls operations of said electric power supplies and said power sources according to a driving state of said moving object.

29. A moving object in accordance with claim 28, said moving object further comprising:

a remaining charge measurement unit that measures a remaining charge of said secondary battery,

wherein said control unit drives said motor with said secondary

battery as a working electric power supply in the case where the observed remaining charge is not less than a predetermined level, while said moving object is in a specific driving state that has been set in advance to select said motor as a working power source.

30. A moving object in accordance with claim 29, wherein said control unit drives said motor with said fuel cell as the working electric power supply in the case where the observed remaining charge is less than the predetermined level.

31. A moving object in accordance with claim 30, wherein said control unit causes an insufficiency of electric power to be compensated with electric power output from said secondary battery in a transient period before said fuel cell ensures a sufficient supply of electric power required to drive said motor, while said fuel cell is selected as a working electric power supply, and

the predetermined level is a certain remaining quantity set based on a quantity of electric power that enables the compensation.

32. A moving object in accordance with claim 28, said moving object further comprising:

a high torque condition decision unit that determines whether or not said moving object is in a specific driving state that satisfies a preset condition for requiring a high torque,

wherein said control unit drives both said heat engine and said motor as working power sources when it is determined that said moving object is in the specific driving state that satisfies the preset condition for requiring a high torque.

33. A moving object in accordance with claim 32, said moving object further comprising:

an accelerator travel measurement unit that measures an accelerator travel,

wherein the preset condition is that a variation in accelerator travel is not less than a predetermined value.

34. A moving object in accordance with claim 32, said moving object further comprising:

a required torque input unit that inputs a required torque,

wherein the preset condition is that the required torque is not less than a predetermined value.

35. A moving object in accordance with claim 32, said moving object further comprising:

a drive mode switch that allows a driver of said moving object to select a specific drive mode for requiring a high torque,

wherein said high torque condition decision unit carries out the determination, based on an operating condition of said drive mode switch.

36. A moving object in accordance with claim 32, said moving object further comprising:

a remaining charge measurement unit that measures a remaining charge of said secondary battery,

wherein said control unit drives said motor with said secondary battery as a working electric power supply in the case where the observed remaining charge is not less than a predetermined level.

37. A moving object in accordance with claim 36, wherein said

control unit drives said motor with said fuel cell as the working electric power supply in the case where the observed remaining charge is less than the predetermined level.

38. A moving object in accordance with claim 28, said moving object further comprising:

a second motor that is driven with said fuel cell and said secondary battery as the electric power supplies;

a regulation unit that regulates supplies of electric power respectively fed from said fuel cell and said secondary battery to said second motor; and

auxiliary machinery that is linked with said heat engine and said second motor,

wherein said control unit drives said second motor while said heat engine is at a stop.

39. A moving object in accordance with claim 38, said moving object further comprising:

a remaining charge measurement unit that measures a remaining charge of said secondary battery,

wherein said control unit drives said second motor with said secondary battery as a working electric power supply in the case where the observed remaining charge is not less than a predetermined level.

40. A moving object in accordance with claim 39, wherein said control unit drives said second motor with said fuel cell as the working electric power supply in the case where the observed remaining charge is less than the predetermined level.

41. A moving object in accordance with claim 28, wherein said motor and said heat engine are respectively linked with different drive shafts.

42. A moving object in accordance with claim 41, said moving object further comprising:

a remaining charge measurement unit that measures a remaining charge of said secondary battery,

wherein said control unit drives said motor with said secondary battery as a working electric power supply in the case where the observed remaining charge is not less than a predetermined level.

43. A moving object in accordance with claim 42, wherein said control unit drives said motor with said fuel cell as the working electric power supply in the case where the observed remaining charge is less than the predetermined level.

44. A moving object in accordance with claim 28, wherein said control unit activates said fuel cell, so as to cause said fuel cell to output a preset electric power, even when it is not required to supply electric power from said fuel cell to said motor.

45. A moving object in accordance with claim 44, said moving object further comprising:

a power estimation decision unit that determines whether or not said moving object is in a specific driving state that satisfies a preset condition, in which there is a little possibility of requirement of an increase in total power to be output from said power sources,

wherein said control unit reduces the preset electric power when it

is determined that said moving object is in the specific driving state that satisfies the preset condition.

46. A moving object in accordance with claim 45, said moving object further comprising:

a transmission that changes speed of power output from a working power source according to the driving state of said moving object and outputs the converted power to a drive shaft; and

an operation unit that specifies a working condition of said transmission,

wherein the preset condition is that the working condition of said transmission is set to a non-driving state by said operation unit.

47. A moving object in accordance with claim 45, said moving object further comprising:

a braking decision unit that determines whether or not said moving object is in the course of braking,

wherein the preset condition is that said moving object is being braked.

48. A moving object in accordance with claim 45, said moving object further comprising:

an information receiving unit that receives information regarding whether or not a pathway, on which said moving object runs, is in a jam,

wherein the preset condition is that the pathway is in a jam.

49. A moving object having a motor and a heat engine as power sources to output power to a drive shaft, said moving object comprising:

a transmission that varies a change gear ratio in the process of

transmitting power output from at least said heat engine to said drive shaft;

a fuel cell that feeds a supply of electric power to said motor; and

a control unit that controls operations of said fuel cell, said power sources, and said transmission according to a driving state of said moving object.

50. A moving object in accordance with claim 49, said moving object further comprising:

a high torque condition decision unit that determines whether or not said moving object is in a specific driving state that satisfies a preset condition for requiring a high torque,

wherein said control unit drives both said heat engine and said motor as working power sources when it is determined that said moving object is in the specific driving state that satisfies the preset condition for requiring a high torque.

51. A moving object in accordance with claim 49, said moving object further comprising:

a drive mode switch that allows a driver of said moving object to select a specific drive mode for requiring a high torque,

wherein said control unit drives both said heat engine and said motor as working power sources when said drive mode switch is in a predetermined state.

52. A moving object in accordance with claim 49, wherein said control unit activates said fuel cell, so as to cause said fuel cell to output a preset electric power, even when it is not required to supply electric power from said fuel cell to said motor.

53. A moving object in accordance with claim 52, said moving object further comprising:

a power estimation decision unit that determines whether or not said moving object is in a specific driving state that satisfies a preset condition, in which there is a little possibility of requirement of an increase in total power to be output from said power sources,

wherein said control unit reduces the preset electric power when it is determined that said moving object is in the specific driving state that satisfies the preset condition.

54. A moving object in accordance with claim 53, said moving object further comprising:

an operation unit that specifies a working condition of said transmission,

wherein the preset condition is that the working condition of said transmission is set to a non-driving state by said operation unit.

55. A moving object in accordance with claim 53, said moving object further comprising:

a braking decision unit that determines whether or not said moving object is in the course of braking, and

wherein the preset condition is that said moving object is being braked.

56. A moving object in accordance with claim 53, said moving object further comprising:

an information receiving unit that receives information regarding whether or not a pathway, on which said moving object runs, is in a jam,

wherein the preset condition is that the pathway is in a jam.

57. A moving object in accordance with claim 28, said moving object further comprising:

a generator that is used as another electric power supply of said motor and converts power output from said heat engine to electric power,

wherein said control unit comprises:

a driving state decision unit that determines whether or not said moving object is in a specific driving state that requires said fuel cell to start power generation; and

an electric power compensation unit that causes said electric power supplies other than said fuel cell to compensate for said fuel cell and output a required electric power in a period before said fuel cell is ready for power generation, when it is determined that the driving state of said moving object requires said fuel cell to start power generation,

said electric power compensation unit comprising:

an electric power estimation unit that estimates an amount of electric power to be compensated in the period before said fuel cell is ready for power generation;

a remaining charge measurement unit that measures a remaining charge of said secondary battery;

a secondary battery capacity determination unit that determines whether or not said secondary battery has a sufficient capacity of enabling output of the estimated amount of electric power, based on the observed remaining charge; and

a heat engine control unit that drives said heat engine and causes said generator to carry out power generation when it is determined that said secondary battery does not have the sufficient capacity of enabling output of the estimated amount of electric power.

58. A moving object in accordance with claim 57, wherein said heat engine is a power source that outputs power only to drive said generator.

59. A moving object in accordance with claim 57, said moving object comprising:

a temperature measurement unit that measures temperature of said fuel cell; and

a cold-time control unit that causes said electric power compensation unit to function effectively at a cold time, when the observed temperature of said fuel cell is not higher than a predetermined value.

60. A moving object in accordance with claim 57, wherein said heat engine control unit drives said heat engine in a specific driving state, which gives a preference to a driving efficiency, as long as an insufficiency of electric power output from said secondary battery is at least compensated.

61. A method of controlling a drive of a moving object, said moving object having a heat engine and a motor as power sources and a fuel cell and a secondary battery as electric power supplies of said motor, said method comprising the steps of:

(a) measuring a remaining charge of said secondary battery;

(b) determining whether or not said moving object is in a specific driving state that has been set in advance to select said motor as a working power source; and

(c) driving said motor with said secondary battery as a working electric power supply in the case where the observed remaining charge is not less than a predetermined level, when it is determined that said moving object is in the specific driving state.

62. A method in accordance with claim 61, said method further comprising the step of:

(d) driving said motor with said fuel cell as the working electric power supply in the case where the observed remaining charge is less than the predetermined level, when it is determined that said moving object is in the specific driving state.

63. In a moving object having a fuel cell, a secondary battery, and a heat engine with a generator as electric power supplies, a method of controlling operations of said respective electric power supplies, said method comprising the steps of:

(A) determining whether or not said moving object is in a specific driving state that requires said fuel to start power generation; and

(B) causing said electric power supplies other than said fuel cell to compensate for said fuel cell and output a required electric power in a period before said fuel cell is ready for power generation, when it is determined that the driving state of said moving object requires said fuel cell to start power generation,

said step (B) comprising the steps of:

(B1) estimating an amount of electric power to be compensated in the period before said fuel cell is ready for power generation;

(B2) measuring a remaining charge of said secondary battery;

(B3) determining whether or not said secondary battery has a sufficient capacity of enabling output of the estimated amount of electric power, based on the observed remaining charge; and

(B4) driving said heat engine and causing said generator to carry out power generation when it is determined that said secondary battery does not have the sufficient capacity of enabling output of the estimated

amount of electric power.

64. A hybrid system comprising a plurality of energy output sources, which include at least a fuel cell and a heat engine, and an energy transmission unit that causes energy of said energy output sources to be output to outside in a usable form, said hybrid system further comprising:

a required energy setting unit that sets a total required energy to be output;

a target driving state setting unit that sets respective target driving states of said fuel cell, said heat engine, and said energy transmission unit, while said fuel cell is preferentially used to output the total required energy;

a decision unit that determines whether or not a preset condition regarding a working state of said hybrid system is fulfilled;

a state change unit that, when it is determined that the preset condition is fulfilled, changes the target driving state of at least one of said fuel cell, said heat engine, and said energy transmission unit to a predetermined state according to the preset condition; and

a drive control unit that controls said plurality of energy output sources including at least said fuel cell and said heat engine as well as said energy transmission unit to meet the respective target driving states.

65. A hybrid system in accordance with claim 64, said hybrid system further comprising:

a drive mode switch that is operated by a driver to specify a desired drive mode,

wherein the preset condition, whose fulfillment is determined by said decision unit, is an operating state of said drive mode switch.

66. A hybrid system in accordance with claim 65, wherein the energy is electrical energy,

the preset condition is that a predetermined drive mode, which allows output of electrical energy to outside, is specified through an operation of said drive mode switch, and

the change carried out by said state change unit represents prohibition of a drive of said heat engine.

67. A hybrid system in accordance with claim 66, said hybrid system further comprising:

a starter switch that is operated by the driver to direct a start of said heat engine,

wherein the preset condition is that the start of said heat engine is directed through an operation of said starter switch, while the predetermined drive mode is specified, and

the change carried out by said state change unit represents the start of said heat engine.

68. A hybrid system in accordance with claim 65, wherein the energy is mechanical energy,

the preset condition is that a predetermined drive mode, in which either one of said fuel cell and said heat engine is selected and used as a working energy output source, is specified through an operation of said drive mode switch, and

the change carried out by said state change unit represents execution of a drive of the working energy output source and prohibition of a drive of the other energy output source, which is other than the working energy output source.

69. A hybrid system in accordance with claim 68, said hybrid system further comprising:

a starter switch that is operated by the driver to direct a start of the other energy output source,

wherein the preset condition is that the start of the other energy output source is directed through an operation of said starter switch, while the predetermined drive mode is specified, and

the change carried out by said state change unit represents the start of the other energy output source.

70. A hybrid system in accordance with claim 65, wherein the energy is mechanical energy,

the preset condition is that a predetermined drive mode, in which only said fuel cell is selected and used as a working energy output source, is specified through an operation of said drive mode switch, and

the change carried out by said state change unit represents execution of a drive of said fuel cell and prohibition of warm-up of said heat engine.

71. A hybrid system in accordance with claim 64, said hybrid system further comprising:

a detector that detects a power generation capacity of said fuel cell,

wherein the preset condition is that the power generation capacity is lowered to or below a predetermined level, and

the change carried out by said state change unit represents a reduction of output of said fuel cell.

72. A hybrid system in accordance with claim 71, wherein said detector detects the power generation capacity, based on a remaining

quantity of a fuel for said fuel cell.

73. A hybrid system in accordance with claim 71, wherein said detector detects the power generation capacity, based on temperature of said fuel cell.

74. A hybrid system in accordance with claim 71, wherein the change carried out by said state change unit represents an increase in output of said heat engine.

75. A hybrid system in accordance with claim 71, wherein the energy is rotational energy of a rotating shaft,

said energy transmission unit comprises a speed change gear unit that switches a change gear ratio between at least two different stages, said speed change gear unit changing speed of the rotational energy output from each of said energy output sources at a preset change gear ratio and outputting the converted rotational energy, and

the change carried out by said state change unit represents an increase in change gear ratio set in said speed change gear unit.

76. A hybrid system in accordance with claim 64, said hybrid system further comprising:

a temperature measurement unit that measures temperature of said heat engine,

wherein the preset condition is that the observed temperature of said heat engine is not higher than a predetermined level, and

the change carried out by said state change unit represents execution of warm-up of said heat engine.

77. A hybrid system in accordance with claim 64, said hybrid system further comprising:

a temperature measurement unit that measures temperature of said heat engine; and

a heat supply unit that feeds at least part of thermal energy generated by said fuel cell to said heat engine,

wherein the preset condition is that the observed temperature of said heat engine is not higher than a predetermined level, and

the change carried out by said state change unit represents an increase in output of said fuel cell.

78. A hybrid system comprising a plurality of energy output sources, which include at least a fuel cell and a heat engine, and an energy transmission unit that causes energy of said energy output sources to be output to outside in a usable form, said hybrid system further comprising:

an energy output source selection switch that is operated by a driver of said hybrid system to select at least one of said energy output sources as a working energy output source;

a target driving state setting unit that sets respective target driving states of said fuel cell, said heat engine, and said energy transmission unit according to the selection with said energy output source selection switch; and

a drive control unit that controls said plurality of energy output sources including said fuel cell and said heat engine as well as said energy transmission unit to the respective target driving states.

79. A hybrid system in accordance with claim 78, wherein said target driving state setting unit sets the target driving state of said heat engine to a specific condition that forbids not only a drive but warm-up of

said heat engine, when only said fuel cell is selected as the working energy output source through operation of said energy output source selection switch.

80. A hybrid system in accordance with claim 64, said hybrid system further comprising:

an accumulator,

wherein said target driving state setting unit sets the respective target driving states by taking into account electrical energy input into and output from said accumulator.

81. A hybrid system in accordance with claim 78, said hybrid system further comprising:

an accumulator,

wherein said target driving state setting unit sets the respective target driving states by taking into account electrical energy input into and output from said accumulator.

82. A hybrid system in accordance with claim 64, said hybrid system is a moving object.

83. A hybrid system in accordance with claim 78, said hybrid system is a moving object.

84. A hybrid system comprising a plurality of energy output sources, which include at least a fuel cell and a heat engine, and an energy transmission unit that causes energy of said energy output sources to be output to outside in a usable form, said hybrid system further comprising:

a control unit that controls operations of said fuel cell and said heat

engine, in order to cause said fuel cell to be used and output energy preferentially, while both said fuel cell and said heat engine are ready for energy output.

85. A hybrid moving object comprising a plurality of energy output sources, which include at least a fuel cell and a heat engine, and an energy transmission unit that causes energy of said energy output sources to be output to outside in a usable form, said hybrid moving object further comprising:

a deterioration detector that detects deterioration of at least either one of said fuel cell and said heat engine; and

a deterioration-time control unit that, when deterioration is detected with regard to one of said fuel cell and said heat engine, controls the other of said fuel cell and said heat engine to compensate for an effect on energy output due to the deterioration.

86. A hybrid moving object comprising a plurality of power output sources, which include at least a fuel cell and a heat engine, and a transmission mechanism that transmits power output from said power output sources to a drive shaft via a transmission, said hybrid moving object further comprising:

a deterioration detector that detects deterioration of said fuel cell; and

a transmission control unit that, when deterioration of said fuel cell is detected, controls said transmission to compensate for an effect on energy output due to the deterioration.

87. A method of controlling a drive of a hybrid system, said hybrid system comprising a plurality of energy output sources, which include at

least a fuel cell and a heat engine, and an energy transmission unit that causes energy of said energy output sources to be output to outside in a usable form, said method comprising the steps of:

(a) setting a total required energy to be output;

(b) setting respective target driving states of said fuel cell, said heat engine, and said energy transmission unit, while said fuel cell is preferentially used to output the total required energy;

(c) determining whether or not a preset condition regarding a working state of said hybrid system is fulfilled;

(d) when it is determined that the preset condition is fulfilled, changing the target driving state of at least one of said fuel cell, said heat engine, and said energy transmission unit to a predetermined state according to the preset condition; and

(e) controlling said plurality of energy output sources including at least said fuel cell and said heat engine as well as said energy transmission unit, so as to enable the total required energy to be output.

88. A moving object comprising a heat engine as a power source that outputs power to a drive shaft, and a motor that applies a torque to a specific site in order to compensate for a variation in torque output from said heat engine to said drive shaft, said moving object further comprising:

an accumulator that is charged with electric power and a power generator unit, which are included in an electric power system that transmits electric power to and from said motor;

a target torque setting unit that sets a torque to compensate for a variation in torque of said heat engine as a target torque of said motor; and

a control unit that selectively uses said accumulator and said power generator unit according to a sign of the target torque, so as to enable said motor to be driven with the target torque.

89. A moving object in accordance with claim 88, wherein said power generator unit comprises a fuel cell.

90. A moving object in accordance with claim 88, said moving object further comprising:

a charge state detector that observes a charge level of said accumulator,

wherein said control unit carries out the control only when the observed charge level of said accumulator is not higher than a predetermined level.

91. A moving object comprising a heat engine as a power source that outputs power to a drive shaft and a control mechanism that checks a variation in torque output from said heat engine to said drive shaft, said moving object further comprising:

wherein said control mechanism comprises:

a first motor and a second motor that apply a torque to said drive shaft;

an accumulator that is charged with electric power and a power generator unit, which are included in an electric power system that transmits electric power to and from said first and second motors.

a target torque setting unit that respectively sets target torques of said first motor and said second motor, as long as a condition of maintaining a torque to be output to said drive shaft, a condition of compensating for the variation in torque, a condition of making the torque of said first motor not greater than zero, and a condition of making the torque of said second motor not less than zero are fulfilled; and

a control unit that regulates electric power transmitted between

said first motor and said accumulator and electric power transmitted between said second motor and said power generator unit, so as to enable said first motor and said second motor to be driven with the respective target torques.

92. A moving object in accordance with claim 91, wherein said power generator unit comprises a fuel cell.

93. A moving object in accordance with claim 91, said moving object further comprising:

a charge state detector that observes a charge level of said accumulator,

wherein said control unit carries out the control only when the observed charge level of said accumulator is not higher than a predetermined level.

94. A method of controlling a drive of a moving object, said moving object comprising a heat engine as a power source that outputs power to a drive shaft, and a motor that applies a torque to a specific site in order to compensate for a variation in torque output from said heat engine to said drive shaft, said method comprising the steps of:

(a) setting a torque to compensate for a variation in torque of said heat engine as a target torque of said motor; and

(b) selectively using an accumulator and a power generator unit, which are included in an electric power system that transmits electric power to and from said motor, according to a sign of the target torque, so as to enable said motor to be driven with the target torque.